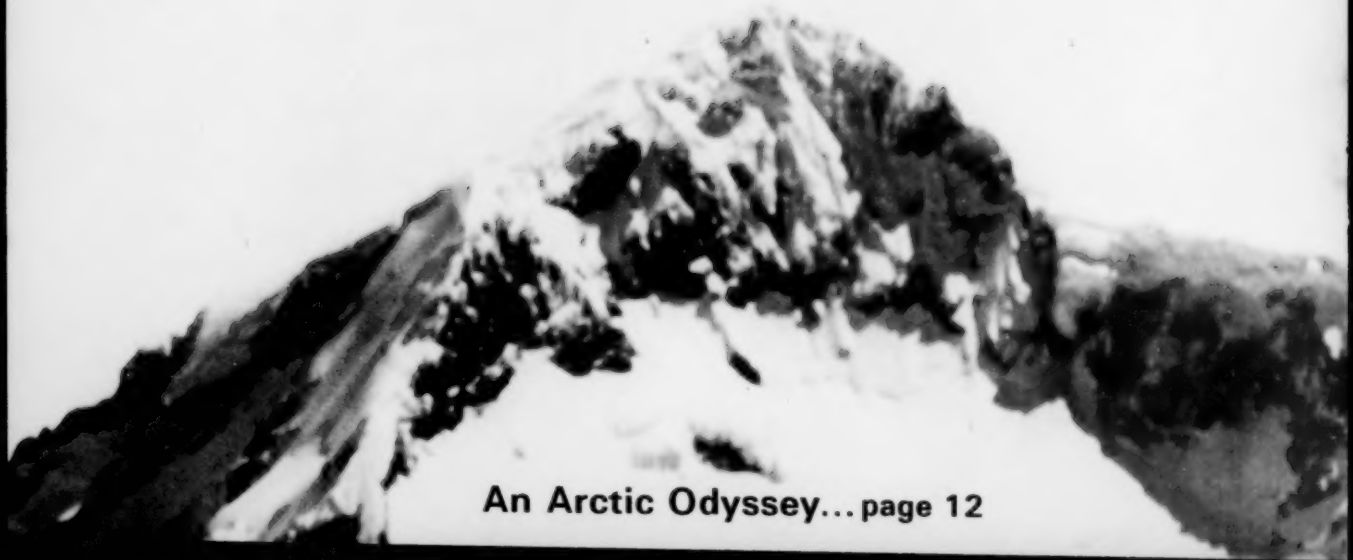
SEPTEMBER 1977

The MAC Flyer



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The MAC Flyer

For Greater Efficiency
in MAC Air Operations

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Ethereal episodes can be trying, but hypoxia is only one of the highfalutin gremlins to watch out for — bends and chokes can be just as deadly.

Deliberate Decompression

Sometimes it seems as though people just aren't paying attention during physiological training. Sure, we all know you need oxygen at altitude—but there are hazards worse than hypoxia lurking up there.

The C-5, commanded by an IP, was cruising at FL 330 when a pressure door warning light illuminated. The problem was traced to the crew entrance door. Although there was no reason to remain at altitude, the AC elected to maintain FL 330 and depressurize the aircraft for further troubleshooting.

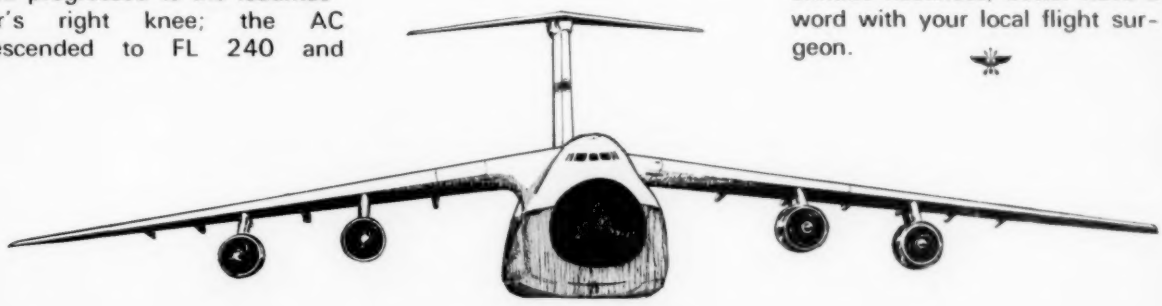
After about ten minutes with the cabin at zero psi differential, one of the loadmasters reported a steady pain in his right side. The pain became more severe and progressed to the loadmaster's right knee; the AC descended to FL 240 and repressurized the aircraft. A flight surgeon met the aircraft on return to home station, where the loadmaster was treated for decompression sickness (the bends).

Several hours later the flight engineer, who had not had any symptoms during the flight, also developed the bends and was admitted to the hospital as an emergency patient.

This incident isn't the only one of its kind; several MAC crews seem to have forgotten their physiology lessons lately. So far, none of the resulting cases of decompression sickness has caused permanent disability or death. But if we're to avoid this sort of grim ending, it's absolutely necessary that MAC crews remember a few things about unpressurized high-altitude flight.

- The bends are brought on by low pressure, *not lack of oxygen*. That's why AFR 60-16 restricts unpressurized flight to 25,000 feet.
- Even at 25,000 feet, decompression sickness is possible; it can occur as low as 18,000 feet.
- The only effective treatment for decompression sickness is immediate descent and the attention of a flight surgeon. Breathing 100 percent oxygen is okay, *but it will not relieve the symptoms*.

If you're still in doubt about the whys and wherefores of bends, chokes, and other high-altitude nastiness, better have a word with your local flight surgeon.



CCT means TGIF

A Combat Control Team is made up of some of the tougher guys in MAC. That's why TGIF (They Go In First).

The Brown and Green Decibel Multiplier appears to be in an unusual attitude—nose low. But in this situation, it's ops normal: an assault landing in simulated combat conditions.

"Okay, co, looks good to me," the AC says, not too confidently. "See any obstacles on the landing zone?"

These words have been paraphrased many times by airlift AC's sliding down a glide slope into small, strange landing zones—particularly at night or in poor vis. This testy situation might even be worsened by hostile fire, friendly artillery fired near the LZ, or the ever-present heavy air traffic around an objective area. The troops that flew 130's, 123's and Caribous in Southeast Asia will certainly recall the sweaty palms, the void in the thorax, and other nervous symptoms associated with *genuine* tactical flying. And though that part of history is securely locked in journals of that era, maybe we should remind ourselves that the tactics aren't necessarily outdated.

Traditionally, aircrews tend to rely solely on themselves, being as self-sufficient as possible and free from any outside assistance. A good idea in a combat situation, what with radio jamming, meaconing, and such. But the aviator sometimes forgets that troops have been put on the ground (at no small cost) to help him. I'm talking about the Combat Control Team (CCT).

A CCT is a group of highly trained Air Force parachutists whose primary responsibility is helping aircrews reach their objectives safely. And for the aircrew that takes advantage of such services, the result is usually alleviation of some of the anxiety associated with combat-type missions. But then again, perhaps you folks aren't aware of the variety of services a CCT can offer in airdrop and airland situations. Let's take a look.

Green Light!

Much time is spent in training combat aircrews to accurately airdrop troops and equipment on target. It's no doubt challenging to fly and navigate the aircraft to the drop zone, but sometimes the mission turns downright sticky during those final minutes prior to "green light"— locating an unfamiliar DZ and making an accurate and successful drop. This is where the CCT can be of most benefit.

Don't count on all future DZ's to be big, easily located blocks of white sand with contrasting

by Lt Col David Hughes
Commander, 49 Transportation Sq
Holloman AFB, New Mexico

green boundaries, *a la* Fort Bragg. Think about navigating over unfamiliar terrain such as the monotonous fields of Europe or over an open desert—or over water, even. When your initial point turns out to be a nondescript point 24 miles from the DZ, even a good navigator can have his hands full. Enter: the CCT. It can provide smoke and panels (or flares and lights at night) to give you that little extra help toward a "point-of-impact."

Maybe you didn't know that the combat controllers often see your bird before you can see the drop zone. Consequently, they can tell you whether you're lined up properly, give vectors, and eyeball the distance. This does *not* involve swallowing your pride; the mission is to get the goods where they're needed—teamwork by design.

Should radios become inoperative or get jammed, the CCT will display visual signals telling you what to do. Special signals might be used to indicate release points, wind velocity and direction, and other important information.

Aside from visuals, the CCT can be equipped with electronic aids that provide guidance beyond visual contact. They might set up a portable low freq beacon on or near the DZ—allowing you to home in on ADF until the crew acquires the DZ visually. This system works fairly well, considering the limitations of ADF.

Radar transponder beacons have helped many a navigator find the DZ. Like any transponder, it provides the aircrew a coded, discrete radar return—giving azimuth and distance from target. If your aircraft is equipped with AWADS or SKE, so much the better. Though AWADS is designed to enable the navigator to effect an IMC airdrop without outside help, the CCT can help improve capability and accuracy by placing portable radar reflectors around the objective. This is especially helpful when the target area photos aren't current or the terrain lacks prominent features.

In the near future, teams may be taking a portable tacan into the objective area. Its range could be in the neighborhood of 75 miles, giving azimuth and distance displays on your cockpit instruments.

Say Winds

As the aircraft approaches the drop zone, the most important thing affecting the accuracy of the drop is a good reliable ballistic wind. For the crew many miles from the DZ it's often difficult to obtain

Combat control teams provide invaluable assistance to the MAC C-141 and C-130 airdrop fleet.

accurate wind data. Combat controllers are trained and certified as weather observers by Air Weather Service; they take timely and accurate observations of wind and weather conditions and can relay that data to you in time for you to update your CARP.

In calculating the drop wind, a helium balloon is launched and its ascent measured. Theoretically, the parachute will descend along the same track that the balloon went up, except from the opposite direction—momentum, rate of fall, and forward travel distance notwithstanding.

Assault Landings Can Be Fun

You Starlifter troops can stick around for this part, too. Like your C-130, 123, and Caribou buddies, you may also have the opportunity to land at a bare base or offline airport where there is only a CCT to give you the service usually provided by FAA. The team provides these services and then some.

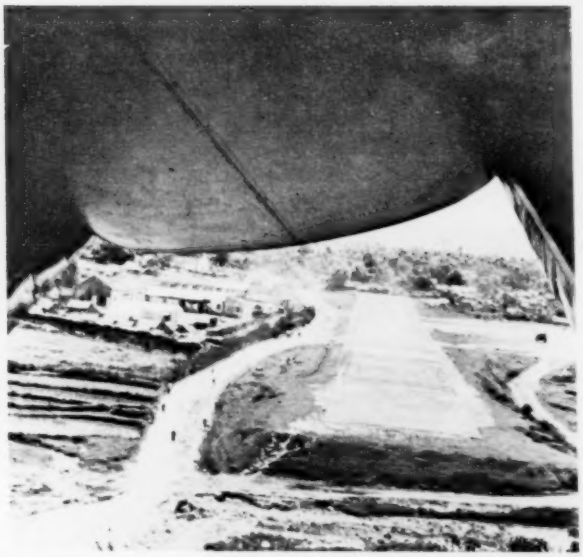
The CCT surveys the airfield, applying TERPS criteria in checking obstructions, etc. It may also design standard instrument departure and approach plates. The combat controllers are your eyes and ears at the landing zone (LZ). They will be sure that the LZ is usable and safe for your type of aircraft and that approaches and departures are clear of obstructions. Controllers provide air traffic control and safe sequencing of all known air traffic in or around the LZ.

All air traffic controllers assigned to CCT's are FAA-certified and are periodically required to work in control towers to maintain proficiency. Aside from normal tower functions, they provide conventional approach control services when IFR conditions exist. They pick you up from an en route radar facility, give holding instructions if necessary, and issue clearances for approach and landing.

Known hostile fire or enemy activity will be reported by the controller and he'll tell you not to land if the LZ becomes too "hot." He can stop nearby friendly artillery fire so you can pass by safely or vector you around or over the firing patterns.

He can determine the offload capability of the LZ and have the aerial port personnel and equipment ready for you. If the LZ is saturated or unable to

Not much room for error here, but the CCT will help.



Looking out the aft end of a C-7 at a 1,000-foot landing zone controlled by a CCT.

accommodate you, he will advise you to remain airborne and provide holding instructions or divert you to another location. The CCT is the focal point of command and control at the LZ.

Other services provided include marking usable runway and taxiways, providing wind and weather information, and displaying standard ATC signals should radios fail. And, as in the case of drop zones, the CCT can place a low freq beacon or radar transponder on the LZ.

The CCT also has a portable ILS called the TALAR IV. This gives the same cockpit presentation as the standard ILS in specially modified C-130's and C-7's. An extremely reliable and accurate system, TALAR IV is certified for 200 and a half minimums even though combat minimums are 300 and one.

Coupled with a portable tacan, the TALAR may give the pilot the feeling he's arriving at O'Hare rather than LZ-18. TALAR/ADF isn't quite as good, but it'll get you there.

No Competition

The aircrew must know what the combat control team can do to enhance safe air operations and not be afraid to ask for assistance. The CCT is not in competition with aircrews, but eager to help. Don't be the independent pilot or navigator who is less effective because he thinks it scars his ego not to "go it alone." Get to know your combat controllers and work together as a team.

TALAR IV ILS guides a Hercules to the landing zone.

CCT'ers are observer qualified by Air Weather Service.

ABOUT THE AUTHOR

Lieutenant Colonel Hughes has been a combat controller for 13 years. He is a civilian pilot, a master parachutist with over 1,000 jumps, an FAA-certified air traffic controller, and a military diver. A native of Hawaii, Colonel Hughes graduated from Montana State University in 1961 and later received a master's degree in logistics management through AFIT. He is a distinguished graduate of Air Command and Staff College. Colonel Hughes is currently assigned to Holloman AFB, New Mexico, as Commander, 49th Transportation Squadron.

If you stop and think about it, we spend a lot of our lives communicating or, at least, trying to communicate. In the aviation business, it's easy if you keep your remarks . . .

In Plane Language

by Squadron Leader O. W. Alderson
60 MAW
Travis AFB, California

If ever an aviation disaster was avoidable, the collision of two 747's at Tenerife is surely a classic example. It may never be known what it was that triggered the captain of one of those aircraft into believing that he was cleared for takeoff. But what can be said with certainty is that many familiar causes of aircraft accidents came together to produce the worst catastrophe in aviation history—one which should prompt all of us connected with aviation to re-examine our attitudes toward our profession.

Whatever the findings of the Tenerife investigation, some factors will certainly be considered: marginal weather, inadequate taxiways, the controller's poor command of the English language, and nonstandard radio procedures and terminology. None of these factors are unique to Tenerife; MAC crews can expect to encounter any or all of them at airfields around the world. Substitute "inadequate navigation aids" and "hazardous terrain" for "inadequate taxiways" and we find all the necessary ingredients for midair collisions and terrain impact accidents. These potential killers are well known and the standard operating procedures that we conform to are designed to eliminate or at least reduce the possibility of such accidents.

In MAC, standardization of aircraft operating procedures is generally excellent—but can we honestly say the same for our communication procedures? Above all, the Tenerife tragedy proved that the ambiguity and confusion caused by the careless use of a single word or phrase can be just as deadly as a mountain peak obscured by fog. This review of good communication practices may help prevent a MAC accident caused by such nonstandard communication. It is not meant to be a comprehensive guide to communications with air traffic control, but as a reminder that we all need to give continuing attention to this vital aspect of our operations.

Flight Planning

The form 1801 or 175 is a written communication from the aircraft commander to ATC. It is simply a statement of intentions for a particular flight and constitutes a request for an IFR (or VFR) air traffic clearance. As in any type of communication, it is vital that the pilot ensure the accuracy of its content; this means checking the computer flight plan route against information published in FLIP, the enroute charts, and current notams. Be sure any special requirements for the route of flight or destination are included (for example, when radar service at destination is available only with prior notification). Remember, the flight plan is your initial communication with ATC on each flight; make sure it's correct.

Preflight

Operational communication equipment is essential to safe flight in today's IFR environment; be sure that a thorough check of all equipment is carried out during preflight. Refer to the Minimum Equipment List as a guide, but use your own good judgment to decide whether or not you can conduct the flight with a particular malfunction. There can be no hard and fast

rule as to what malfunctions are acceptable; a condition which is perfectly safe on one flight may be extremely hazardous under different circumstance.

Monitor ATIS, if one is available, and include the code letter in your request for clearance. This is normally the first radio call to air traffic control and should set the tone for the remainder of the flight; make it clear, concise, and correct. For example: "Travis Clearance Delivery, this is MAC 80022, spot 341, IFR Dover, information Delta received, clearance on request. Over." This tells the controller all he needs to know and also lets him know he is dealing with an efficient operator.

In Flight

From the point at which engines are started through engine shutdown after flight, communications are subject to rules, regulations and conventions which have been established over a number of years.

Some pilots want to indicate that they are incoherent, mumbling idiots.

Military pilots should always be aware of these rules and regulations and should attempt to communicate with ATC in a professional and efficient manner. Some pilots, both military and civil, seem to want to indicate to the world in general that they are incoherent, mumbling idiots. Do not attempt to slavishly ape their behavior. Instead, formulate your thoughts, consider what you want to tell air traffic control and then pass your message using approved terminology.

You should ensure that your transmissions are unambiguous and that you really mean what you say. How many times have you called "out of" a flight level while the pilot flying the aircraft was still in the act of disengaging the altitude hold? If you really want another aircraft descending on top of you, that is one way of going about it. If, on the other hand, you prefer to have a reasonable amount of vertical separation from aircraft above and below you, then wait until you really are out of your previous flight level before you say you are.

As a receiver of communications, be alert for suspicious or ambiguous clearances. Did he mean "descend to 40" or "descend 240"? That very clearance almost caused an accident in Europe not so many years ago. The golden rule is: If in doubt, request clarification.

Many air traffic control centers have special operating and communication procedures. These are published in FLIP; you should study the sections appropriate to your route before entering airspace with which you are not familiar. A good example is Bahrain, which requires a call ten minutes prior to entering its airspace. If you wait until crossing the boundary, you will probably be awarded a violation.

This brings us to the subject of foreign controllers, who are not always as efficient as they should be and whose command of the English language is often less than perfect. You need to be on your guard and to listen carefully to your clearances and the clearances being issued to other aircraft in your immediate vicinity. At the same time, be tolerant of the controller's problems; ask yourself how your Arabic or Greek would stand up to critical examination. Above all, never lose your temper over the radio. It is boorish and indicates that you have probably lost control of yourself and of your flight deck.

Reward for Excellence

Good communication practices and sound flight deck operation are keys to excellence in the field of air transport. We cannot all be the best "stick and rudder" pilots in the world, but there can be no excuse for incompetent, amateurish performance on the radio. Look for nothing short of a first class standard in your communication performance. The added degree of safety that you achieve will be reward enough.

ABOUT THE AUTHOR

Squadron Leader Alderson joined the Royal Air Force in 1950 and completed pilot training in the Tiger Moth and T-6 in Southern Rhodesia. Following advanced pilot training, he spent night fighter pilot tours in the Vampire, Meteor, and Javelin. Squadron Leader Alderson transitioned to jet transport duties in 1960 and flew the Comet 4C until 1975 when he was assigned to Travis AFB under the USAF/RAF exchange program. He is currently serving as a C-5 flight examiner with the 60 MAW.

Mishap with a Moral

The Missing Ingredient

No single factor caused this fatal accident–but one thing could have prevented it.

Termination of flight not at airport," the AF Form 711gA puts it very succinctly. This form is one of many in an aircraft accident report; it lists, among other things, the cause of death in a fatal accident. These few terse words certainly sum up the effect of a terrain collision accident on the crew of the aircraft. But they shed no light at all on the real cause of death—the events that led up to the flight's "termination." For this, you have to go a little deeper into the report.

The accident itself could be described in phrases almost as stark as those of the 711gA: "The multiengine jet struck the ground 3.25 n.m. short of the runway during a night ASR approach in marginal weather. There were no survivors." Here are a few clues as to what may have happened; darkness and marginal weather are often factors in a landing accident. Then, as the narrative unfolds, other familiar cause factors come to light, until finally all the ingredients for a classic terrain collision accident are manifested.

Mission Commitment

The hour was approaching midnight; the crew of the big jet were nearing the end of a routine training mission. Weather at home station was not good: 800 broken, estimated 3,000 overcast, visibility three miles in snow showers, ceiling ragged. Not the greatest weather for a nonprecision approach—but the instructor pilot in command needed an ASR approach for currency. And in these days of fuel conservation and limited flying time, who can afford an extra training sortie to make up an event that could have been accomplished during the last mission? The crew's request for an ASR touch-and-go followed by a PAR was approved, and the controller began vectoring the aircraft for the approach.

Get-Home-Itis

The aircraft was on course and descending to MDA when the crew overheard a transmission from the SOF to the command post: The RCR on the taxiways was rapidly deteriorating; it had

"It's getting bad . . . we're going to put it on the deck."

dropped from 12 to six. The crew requested a repeat of this transmission; the command post obliged.

Later, the board established that the IP had a strong personal motivation to land at his home base rather than be diverted. Of course, it is impossible to know what was on the pilot's mind; but, in any event, the decision was made to terminate the mission on this landing. The crew acknowledged the command post's transmission with, "It is getting bad . . . and we're going to put it on the deck."

Disorientation

It was, indeed, getting bad out there; a special observation taken a few minutes after the accident showed a 500-foot ceiling and two miles visibility in snow showers. In addition, the situation was ideal for spatial disorientation: darkness, blowing snow, rising terrain, and a ceiling which sloped down toward the runway. The crew of another aircraft which had landed 30 minutes earlier reported difficulty in maintaining the desired rate of descent on final; at times, the aircraft appeared to be straight and level although it was actually in a 1,000-foot-per-minute descent. In addition, the field was intermittently obscured by blowing snow.

The descent angle of the accident aircraft from final approach fix to impact was approximately six degrees. Such a flight path is not unusual during a nonprecision approach, since a common technique is to arrive at the MDA well in advance of the missed approach point. But, in this case, distractions and illusion-producing factors may have caused the pilot to continue a high rate of descent even after acquiring visual contact with the runway.

Distraction

There are many accidents in which distraction may have played a major role; in this case, it was almost certainly a primary cause. The discussion with the command post took place during the final minute of flight; the board concluded from voiceprint analysis that three transmissions were made by the pilot flying the aircraft just prior to impact. The last transmission received from the aircraft was, "Well, er, we are on final, we, er, are gonna, ahh . . ."

The board estimated that at this point, the aircraft was 200 feet above the terrain and descending at approximately 1,300 feet per minute.

The Missing Ingredient

Motivation to complete the mission, "get-home-itis," spatial disorientation, distraction, marginal weather—all are factors which frequently surface in accident investigations. Everyone who flies has to deal with these things at one time or another, singly or in combination. But even the combination of all of them didn't make the accident inevitable; the final cause was not something that was present, but something that was missing. The board stated, "The pilot not flying the aircraft failed to adequately assist the pilot flying the aircraft in maintaining safe terrain clearance . . . . Had he properly assisted the pilot at the controls, this accident would not have occurred."

Sound familiar?—a navigator's warning ignored, a terrain chart not checked, a clearance accepted without question, a crewmember who kept his doubts to himself. And each time, it indicates that the one thing which could have prevented the accident wasn't there.

Crew coordination—the missing ingredient.

If you've ever been surrounded by lostness, couldn't talk to anyone, and had no place to land, you can probably empathize with this crew.

An Arctic Odyssey

by Lt Col Orlen L. Brownfield
Supervising Editor

We've all had days when nothing seemed to go right. "Win a few—lose a few." Or, "It goes with the territory." Right? But we looked for the silver lining and things brightened up. Well, here's a case when the pucker factor, perspiration index, and strained voices got awfully high before anyone saw anything resembling the slightest ray of hope.

This strange odyssey of Hercules began at Station Nord on the northeast tip of Greenland. It should have been a routine flight to Sondrestrom, only four hours away. The weather was VMC and the bird was in good shape, except for the underfloor heat which was turned off. It was a late evening departure, but the sun shines 24 hours a day at 81 degrees north in May. The Herk leveled at FL220.

"There are strange things done in the midnight sun . . . ."

The tacans, VOR's, and ADF's had been turned off since they wouldn't be needed for awhile. The navigator busily programmed the ASN-24 for grid operation while the pilots studied a less-than-cooperative autopilot.

Retrimming and reengaging would work for awhile, but "George" would get finicky again.

About one and a half hours after takeoff, the doppler took on some of the autopilot's characteristics—the memory light illuminated and the ground speed and drift indicators froze at 248 knots and 11 degrees left, respectively. Five minutes later, the autopilot rudder and elevator servos kicked off; again the crew tried to reengage. The aileron and elevator servos looked okay, but the rudder servos still acted up. So the pilots elected to handfly the Hercules. Meanwhile, the navigator had his multiband APQ-122 in standby mode when he noticed something else unusual.

"Pilot, my scope seems to have a case of Saint Elmo's fire," he might have said. About the same time, he noticed that neither C-12 compass was performing as advertised. Hmmm.

The ASN-35 doppler computer was next to go. And shortly the engineer announced that, although frequency and voltage were normal on all three phases of number two generator, the loadmeter indicated zero on the "A" phase—neither a bus-off nor a generator-out light was observed. The engineer turned off number two generator but was uncertain as to whether number one generator had picked up the load; the loadmeter showed no movement.

Good time for a Conference Skyhook, the pilot thought. He gave Thule a call. Both HF's were intermittently inop and he had difficulty getting phone patch quality. While attempting the patch, the crew noticed that the copilot's ADI was awry. A fine time to go IMC, huh? The pilot decided to climb to FL 250, hoping to maintain VMC.

At this point, the crew must have thought Rod Serling was somewhere on the flight deck, explaining to the TV audience what was happening. As the increasingly worried crew executed procedures outlined in pertinent safety supps, both hydraulic suction boost pump lights lit up; the pumps were shut off. And as the engineer turned the ATM (air turbine motor) on, the essential-AC-bus-off light illuminated—the antiskid was turned off as directed by the safety supp.

What next? All engine instruments failed. Number one engine TIT maxed out and other gauges froze at previous readings with "off" flags in view. The engineer placed both inverters to the DC-off position and engine instruments returned to normal; now the copilot's ADI began working, too.

The engineer removed the cover on the main AC distribution panel at FS 245 and found that all three "A" phase circuit breakers had popped. He reset them and regained the use of the essential AC bus. As power was being restored, the navigator announced that his ASN-24 computer had failed; the "drop" light was flickering.

The crew finally got a good phone patch with 21st Air Force Command Post through Thule. Twenty-first advised that they would have MAC Stan/Eval stand by in case the crew needed further assistance.

The time: two hours after takeoff. The navigator completed a heading shot and found the Hercules maintaining 292 degrees grid—the compasses read 260 degrees and did not change as the aircraft was turned.

"The Arctic trails
have their secret tales . . . . "

Subsequent shots by the navigator produced the truth; the aircraft heading had drifted 30 degrees to the right of that planned. The crew obtained winds for FL 250 from Thule and decided to maintain the 290 heading. This would bring them to the western Greenland coastline between Thule and Sondrestrom. Using a modified landfall (*water*fall?), they planned to turn left at the coastline and follow the shore line to Sondy.

"Advise Sondrestrom we're proceeding minimum navaids at FL 250."

Again the navigator tried the radar. No luck. But at approximately two and one-half hours into the flight, the crew visually sighted the western coast of Greenland, turned left along the coastline, reduced power to long range cruise, and attempted to contact Thule with a progress report. But the gremlins were at it again—the Herk crew was unable to contact Thule or any other station.

The crew lost visual contact with the coast as the C-130 flew over a low undercast deck. A little over three hours into the flight, the navigator found that

"The northern lights have seen queer sights . . . . "

three circuit breakers on the back of his radar scope had popped; he reset them and regained use of his KA-band radar.

The crew had one operative ADF and they attempted to tune in all radio beacons along the coast, but could get no identifiers or directional indications. The navigator was finally successful in picking up Clyde River beacon, located some 300 miles *west* of the Greenland coast. The signal was strong, but the ADF needle fluctuated a great deal—still the navigator got a general bearing placing them somewhere between Thule and Sondrestrom. The navigators attempted a couple of celestial shots, but the sun was low on the horizon and the moon was masked by a thin overcast. They decided the fix was unreliable.

The copilot continued to handfly the aircraft while the pilot made Mayday calls on UHF, VHF, and HF. No stations answered the calls so the pilot recycled the transponder to 7700 emergency and monitored it to see it the Hercules was being interrogated. It wasn't.

Finally, the pilot attempted to transmit a Mayday message on Sondrestrom's approach control frequency. A commercial flight at FL 370 picked up the Mayday call and began relaying the C-130's words to Sondrestrom. The commercial crew did not have UHF radio for DF steer capability, but they did recommend that the Herk take up a heading so as to place the moon off its right wing. The commercial crew also advised the MAC types of radio beacons they knew to be operating. But the C-130's lone ADF refused to provide an aural or visual signal. The crew took up the recommended heading after confirming that there was indeed land below them on the KA-band radar.

The Hercules settled onto the runway.

More than four and one-half hours after takeoff, the crew began to hear Sondrestrom approach control talking to the commercial airliner and knew for the first time that they were headed in the right direction.

Communications became louder; Sondrestrom advised that they had placed a Danish C-130H on alert for possible intercept. A flash from the center console told the crew that somebody was interrogating their IFF/SIF; the pilot advised Sondy. Ten minutes later, approach control announced that Red River GCI was painting the C-130 and cleared them direct to Sondrestrom.

The DME locked on at 50 miles.

The Hercules passed directly over the field and requested a gyro-out GCA.

With 100 percent flaps and antiskid (which had tested unreliable on the before-landing checklist) turned off, the Hercules settled onto the runway; the pilot stopped the aircraft using reverse only. The brakes worked normally on taxi in.

A crewmember closed out the 781. "Not bad—6.2 hours on a four-hour flight."

Someone smiled—everyone sighed.

Quotations from "The Cremation of Sam McGee" by Robert W. Service

Global Notes

Stressful Situation

TSgt Thomas A. Kraemer, a C-130 flight engineer with 774 TAS, Dyess AFB, Texas, distinguished himself by his outstanding performance during an aircraft emergency. While on a tactical airdrop mission, the aircraft encountered severe clear air turbulence. The loadmaster called on interphone that the cargo had shifted and he and the other loadmaster were injured. When the turbulence subsided, Sergeant Kraemer went to the cargo compartment to assist the loadmasters. The compartment was in complete disarray, with equipment scattered everywhere. One loadmaster was unable to move and was bleeding from cuts on the scalp. The other loadmaster had suffered back injuries and was unable to perform any duties. Two CDS bundles, each weighing approximately 1,500 pounds, had broken loose and damaged the top of the cargo compartment during the turbulence. Both loadmasters were lying extremely close to the free moving cargo. Sergeant Kraemer quickly analyzed the situation and immediately secured the cargo to prevent any further damage to personnel or aircraft. Once the CDS bundles were secured, he administered first aid to the two injured loadmasters. For his actions during the emergency situation, Sergeant Kraemer received the MAC Distinguished Individual Safety Award.

Broken Communications

Maj Edward A. Klein, a C-5 flight examiner assigned to 22 MAS, Travis AFB, California, was awarded the MAC Distinguished Individual Safety Award for successfully coping with a unique in-flight emergency. While Major Klein's aircraft was connected with a KC-135 during a night air refueling mission, that portion of his flight control wheel which holds the microphone switch suddenly broke off while he was handflying the aircraft. Besides control problems, he was also incapable of communication with either his crew or the tanker. Further complicating matters, because of a dimly lit flight deck, his fellow crewmembers did not notice the problem and, in addition, the oxygen mask he was wearing prevented him from shouting instructions to the crew. Because the broken wheel also kept him from performing an emergency breakaway, Major Klein immediately grasped the remaining portion of the yoke, used the throttle disconnect button to disconnect from the tanker, and flew back to a safe distance from the KC-135. He then transferred control of the aircraft to the other pilot, and the aircraft returned to home station without further incident.

15,000 Hours

Col Donald W. Spearel, Chief of Training, 22 AF, Travis AFB, and MSgt William G. Vestal, flight engineer, 8 MAS, McChord AFB, are recent recipients of the MAC Individual Flying-Hour Milestone Award. Each completed 15,000 hours of accident-free flying. They were presented with 15,000-hour patches which will indicate their accomplishment. Congratulations!

Captain Coe is given the "nickel" tour by Colonel Brownfield, Supervising Editor.

Personnel Change

Joining the FLYER staff as associate editor is Capt James P. Coe, who comes to us from Columbus AFB, Mississippi, where he was a T-37 instructor pilot for ATC. Prior to his ATC assignment Captain Coe flew TAC C-130's at Langley AFB, Virginia.

Just a short flight with an old friend over country we knew like the backs of our hands.

How To Get Lost

There's a TOS (Trite Old Saying) among flying types who don't care much for filling out forms: "When the sheer bulk of the paperwork equals max gross takeoff weight, you're ready to fly."

Never, I thought, had a TOS rung truer than in the USAF Aero Club under whose auspices I finally mastered the Cessna 150 to the FAA's satisfaction. As every aero clubber knows, there are rules, regulations, restrictions, forms, and checklists enough to overgross a C-5. Flying is great, I thought, but why do fun and freedom always seem to violate a rule? It took an experience of a past summer to impress me with the true significance of some of those apparent nuisances and how they can help preserve an intact skin and prevent collecting on the hull insurance.

Since all my fun flying to date had been off an aero club ramp, I jumped at an invitation for a ride in a friend's Cessna 182 while I was home on leave. An old high school partner-in-mischief had hit it big in the construction business. We used to terrorize the countryside in a '34 Ford—now Joe was doing the same thing with a fleet of cement trucks, and he had put a handsome share of the profits into flying lessons and an airplane.

Our foray into the blue was to be a short hop from Joe's homemade private strip to a nearby airport to refuel, then back to Joe's place. My host said to show up at six p.m. I appeared on time, camera on neck and sectional in hand, ready for some heavy sightseeing over the northern New Jersey hills and forests where we'd both been born, raised, and schooled.

As I idly watched the drooping windsock that Joe had attached to a nearby barn, I noticed there was no airplane in sight and wondered where he kept the machine. My question was answered by the unmistakable

Third place winner, 1977 MAC Flying Safety Writing Contest

t in Your Own Backyard

by CMSgt George M. Horn
Hq Air Weather Service
Scott AFB, Illinois

roar of the 182 taxiing briskly down the hill from Joe's lawn along an old dirt road now grown up in tall grass. Interesting. I'd never seen an airplane used as a mowing machine before. I admired the neat swath cut by the prop as Joe burst out of the greenery and swung smartly around on the end of the cinder strip.

Wearing the same grin he used to exhibit after executing a particularly precise bootlegger turn in the old Ford, Joe popped open the door and beckoned for me to get in.

"Let's hustle," he said. "If we get off now we can fill it up and get back here before it gets dark. It's only a few minutes over to the airport." I'd been there many times before, if only in a car, and I assumed Joe had made the trip often enough in the 182 to know the way blind-folded. A short, no sweat flight, right? Never assume.

After a cursory runup, we wheeled onto the near end of the strip and were away. Joe turned in the general direction of the airport while I peered into the gathering blue-gray haze not uncommon to that part of Jersey on a summer evening. All those beautiful trees and ridges down there had suddenly turned into a great sea of murk as the sun continued to sink out of sight behind the Pennsylvania hills. I unfolded the sectional and tried to compare landscape to map. Wasted effort. There didn't seem to be any blue haze on the chart—just a bunch of lakes, roads, and towns, none of which were recognizable to either of us. Pilotage was impossible.

I thought Joe looked worried as he picked up the mike and tried to call destination tower. No answer. Too bad, I thought, maybe they could have slipped us a hint on where they were hiding down there. Oh, well—no matter. Joe obviously knew this area well. Nothing to get excited about.

At least not until he turned to me and said, "We're lost."

Lost? How could we be lost? Just a few minutes ago we were lifting off from a home airstrip right in the middle of an area we considered our backyard, for Pete's sake! We'd covered this area on foot, on bikes, and in cars countless times. We knew this place! We couldn't possibly be lost. But the look on Joe's face convinced me that this was not an exercise and that we were, in fact, "disoriented."

With great presence of mind and resolve, I passed Joe the sectional, hoping he'd think of something constructive to do with it. He did. He gave it back.

Then he started flying in circles and staring into the haze, hoping to spot the elusive airport. No luck. As it got darker, the haze got thicker. We might just as well have been looking at Earth from Apollo 13, thousands of miles out. And *we* didn't have Houston to talk to.

This was ridiculous. We couldn't be more than ten miles from home and we were already in worse shape than Lindbergh on his way to Ireland. Joe hung in there, still wheeling in great circles and muttering encouraging stuff like, "It has to be down there somewhere."

" . . . I thought it would be okay if I sweated a little, too, and started to do so immediately."

It wasn't until he started sweating a little that I remembered why we were going to the airport in the first place. I shot a look at the fuel gauges— almost empty. I'd never seen those needles on "E" before except while parked on the ramp with the master switch off. This was a little different. We were 1,500 feet in the air over a bunch of trees, no airport, no gas, and no ideas. Under the circumstances, I thought it would be okay if I sweated a little, too, and started to do so immediately.

When Joe saw me staring at the fuel needles and the less than optimistic picture they were painting, he decided to try something completely different and broke off his circular search. "I think we'll go back home," he said, but he lacked conviction. I didn't ask how he planned to find his way back to a carrier-sized strip somewhere in a hazy valley when we couldn't even locate one of the biggest general aviation airports in New Jersey. I chose instead to sit there in the right seat and reflect on all the nice things that had happened to me in the past few years. I was passing through 1975 when I noticed Joe fiddling with the VOR and centering the needle on something.

"We're going to the Huguenot VOR," he said. "The airstrip is only a few miles south of there." Snatching up the sectional, I checked. Sure enough. There was the VOR, happily pulsing away on 116.1 and upping the odds on seeing Mom, green grass, and home again. Only one little problem—according to the map, somewhere between our approximate location and the VOR was an imposing stone monolith they call High Point Monument. Large, lofty, and unyielding, it stands at 2,023 feet above sea level. Since the altimeter put us only at about 1,800, I decided to go back to my review of the past.

It wasn't until we both saw the obstruction lights blink safely past *above* the right wing that I started to breathe again. Over the VOR, Joe turned inbound to home base while I applauded.

" . . . life is sweeter for having tested it and all that, but . . . "

As he'd figured, only a few minutes took us back to the spot we'd started from and we sailed in for a no- flap landing. (For a big finale, the flap motor burned out.) Even though our arrival was more like a post-patrol return to the Saratoga than a landing on a small strip in New Jersey, I was grateful. I gave silent thanks to the FAA for keeping the tubes glowing at the Huguenot VOR, to Cessna for installing fuel gauges that read empty while there's still a little juice in the tanks, and to my buddy Joe for getting us home without exercising the ELT.

There's been lots of time to reflect on that event, which seemed like forever but only added about 30 minutes to Joe's logbook. In retrospect, it made Aero Club rules, regulations, and restrictions look good. Preflighting isn't all that much of a drag, after all. And as for forms, well . . . a flight plan at least gets people out looking for you if, you get lost like we did and, God forbid, go down out of sight.

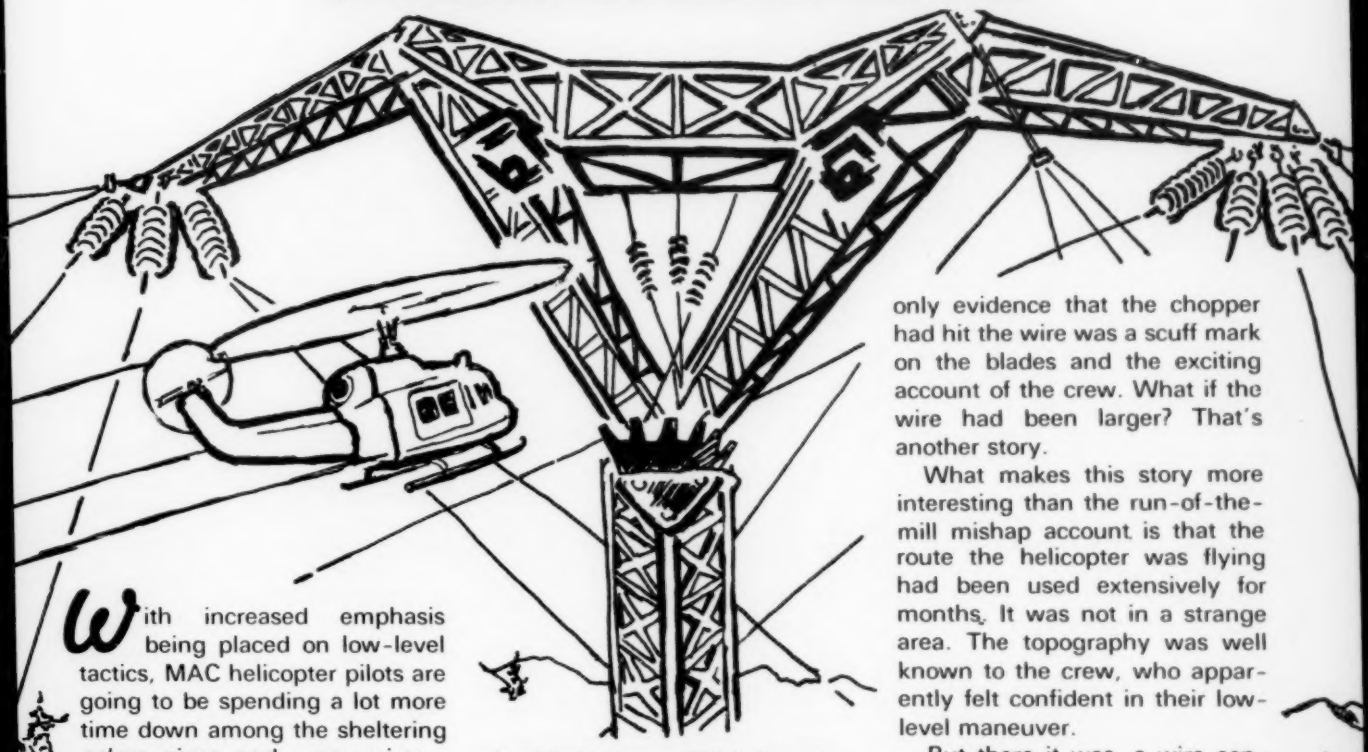
Fun is fun, and life is sweeter for having tested it and all that, but fast and loose does not insure a long life, lots of retirement checks, and a place in St Pete. It's nice to be alive, and I, for one, don't intend ever to work without a net again.

ABOUT THE AUTHOR

CMSgt Horn entered the Air Force in 1950 as a weather observer. He flew as a weather-gunner on RB-29's and RB-50's from 1951 to 1958, and later as a dropsonde operator on WB-50's. His subsequent assignments include tours as detachment, squadron, and wing chief weather observer and two years as an inspector for the Air Weather Service Inspector General. Chief Horn recently completed forecaster school at Chanute AFB. He is a private pilot. He presently serves in the Air Weather Service Field Support Directorate as AWS Weather Operations Superintendent.

This is for sling-wingers who think they "have it wired."

Helicatchers



by Maj Kenneth M. Lewis
MAC Flying Safety

With increased emphasis being placed on low-level tactics, MAC helicopter pilots are going to be spending a lot more time down among the sheltering palms, pines, and—yep—wires.

The potential for accidents in the low-level environment is nothing new, but for pilots unaccustomed to routine low-level flying, the mishap threat is multiplied by the inexperience factor. For veteran chopper jocks, well, this is not the time to become complacent.

In the last nine years, the Air Force has recorded only seven wire strikes by helicopters. A lot of skill and caution kept this number low; but there was probably more than a little luck involved.

The type of hazard that helicopters encounter at low level is pretty well typified by a mishap which occurred not long ago. This one involved a MAC chopper crew which survived apparently due to a generous endowment of good forture.

On a daylight, mountain, low-level profile using the night recovery system, the helicopter was flying at approximately 150 feet along an approved course when it struck a power line. Ordinarily, when this happens, a crewmember might expect to see his entire flying career pass before his eyes. But Lady Luck was hovering close by. The wire was small and the helicopter's main rotor blade severed it. The only evidence that the chopper had hit the wire was a scuff mark on the blades and the exciting account of the crew. What if the wire had been larger? That's another story.

What makes this story more interesting than the run-of-the-mill mishap account is that the route the helicopter was flying had been used extensively for months. It was not in a strange area. The topography was well known to the crew, who apparently felt confident in their low-level maneuver.

But there it was, a wire connecting a forest ranger's observation post with the outside world. The posts supporting the wire were some 400 to 500 yards apart. Had one of the aircrewmembers seen the posts he might not have realized that a wire connected them.

The potential for this type of mishap will increase proportionately to the increase in low-level flying but there are several things that we can do to avoid being snagged by these helicopter catchers: perform route survey, report unmapped obstructions, and keep alert.

Flying "in the dirt" is nothing new to sling-wingers. Neither is the thin margin for error which accompanies low-level operation.

Flight Lines

Somewhat Pregnant

Concerning Captain Brewer's article in your June publication, "Touchdown: 600 Feet *Above* Minimums," about two-thirds of the way through his story, he writes: "The last weather sequence and forecast . . . indicated . . . partial overcast at 1,000 feet and a ceiling around 25,000."

My 13 years' experience in meteorology leaves me at a loss to explain the apparent contradictions in the statement. In an effort to clarify the matter, I checked with a number of pilot instructors at the USAF Instrument Flight Center. They, too, were at a loss. The consensus was that the term "partial overcast" may be analogous to being "somewhat pregnant" or "almost promoted."

I also checked AF and Navy directives for definitions; both adhere to Federal Aviation Regulations which define overcast as "complete sky cover." The terms "partial" and "overcast" are incongruent. Ceiling is defined as "the height of the lowest layer of clouds that is reported as broken or overcast (not classed as 'thin') or obscuring phenomena (not classed as 'partial') ."

This may all seem to be insignificant, but I feel that accuracy and reliability of communicating and interpreting weather information is important to safe aircraft operations.

Maj Michael G. Olivier
24 Weather Squadron
Randolph AFB, Texas

★ We agree that much of safe air operations is contingent on good communications and interpretation of all data, weather as well as other operational information. We printed the story as presented to us by the author; perhaps the statement "partially overcast" warned the crew of other possible errors—the altimeter in this case. Thanks for the interest in the FLYER and the clarification.

Bogus RCR

While reading a past issue about a T-39 sliding off the runway, I was reminded of a similar occurrence that I'd like to share.

We were scheduled into Glenview NAS on a clear and windy winter morning. The crosswinds were exactly max: 90 degrees to the runway heading at 20 knots, gusting to 30. We asked tower about their RCR and they replied that there wasn't any reported. That was good because we couldn't have landed with any braking impairment. We made a rather non-precise precision approach—the Teeny Weenie was all over the sky. We had approach plus five and naturally the gusts quit close to the ground as we landed a little long.

No problem, we had a long runway. But during rollout, we came upon large patches of ice (approximately 5,000 feet down the concrete). Fortunately, we got the aircraft stopped on the runway.

When I finally collared the duty officer, he explained that they had just opened up and had not looked at the runway yet; besides, it was okay yesterday afternoon when they looked at it. It was then I realized that a "no reported RCR" might be because no one had checked.

I hope my sharing this experience may keep someone out of a tight spot. Sign me,

Surreptitiously Slippery

★ Slick, your point is well taken. Understanding verbal communications still rates near the top of the stay-alive list. You were lucky; the 747's at Tenerife weren't. And Starlifters prematurely struck the ground in Washington and Spain because they misunderstood. Thanks for the confession. Let's hope others learn from it.

Sullivan on Systems

I've been telling folks that Sullivan said ("Interview with a Master Test Pilot," TMF, Jan 77), "Pilots get into trouble by not knowing their systems and going on hearsay." I had only read the article once; when all copies disappeared, I had to rely on my poor memory. Then, thanks to the copies you sent, I discovered that I had been misquoting his statements a little, but making many points for study and understanding of systems. Above all I've been able to emphasize that crewmembers must not just accept FE and instructor statements as gospel; they must research and verify them. I believe I've always set it right: I end the statement with "Everything I've told you is hearsay."

Maj Roland L. Wolfe, Jr.
374 TAW/DOV
Clark AB, Philippines

★ "Flying airplanes on hearsay is not an efficient nor safe way . . . " is how Leo Sullivan said it. Sage advice. We're indebted to Mr. Sullivan for taking the time for the interview and grateful to you for your response.

Good News, Bad News

Two articles in the May TMF expressed a point of view on human relations, one openly and one subtly. I strongly agree with one and strongly disagree with the other.

C.R. Terror dealt brilliantly with male chauvinism rampant among flyers and even gave a little spotlight to fighter jocks—it's 'bout time and right on!

Your Quick Stopper "Mixup on Final"

unfortunately lacked the same sensitivity. The line, "Talk about a Chinese fire drill!" betrays an unfortunate WASP perspective on Asians and/or Asian Americans that was widely evident in SEA. When fully amplified, the implied humor becomes sadly evident on its face: Chinese fire drills are funny because they involve a yellow people who are smaller, speak a different and funny language, can't handle a crisis situation, and don't measure up to "our" standards of competency. I realize that no person of decency would suppport that statement, but I suspect some laughed at the "humor."

Have read and enjoyed the FLYER for years. Continue the good work.

SSgt Peter S. Nicholas, AFROTC
UCLA
Los Angeles, California

★ Thanks for the kind words on C.R.'s nightmare—it did sensitize the Master Manipulator to the woman's world. As for the "Chinese fire drill," we staffers have never seen the kind you describe; to us, the inference is almost anything "botched up," with no more ethnic connotation than, say, "Chinese checkers." But since you found it offensive, we'll turn up our sensitivity sensors if you'll do the same. Weren't you stereotyping when you used the term "WASP perspective"?

Worm in the Big Apple

I would like to comment on the article "Flying in the Big Apple" in your Feb 77 issue of THE MAC FLYER.

Your article stated that a "T" symbol on an approach plate indicates a required climb gradient of at least 152 feet per nautical mile. This is not entirely correct. In reality, if a climb gradient of 152'/nm (40:1 slope) can be achieved (no obstruction penetration of this slope), then no takeoff notation is required and there will be no "T" symbol on the approach chart.

The "T" symbol is required when standard takeoff minimums cannot be authorized due to 40:1 penetrations or when an IFR departure restriction has been applied to the airport, e.g., "climb to 2400' before turning westbound."

In all cases where a "T" symbol is depicted on an approach chart, the pilot should refer to the IFR Takeoff Minimums and Departure Procedures in the front of the approach book for guidance.

I submit (this information) in the hope that "ole C.R." will not *assume* that by maintaining at least a climb gradient of 152'/nm, he will avoid all obstructions during his takeoff/climbout, thereby not *scrapious gluteus maximus.*

B. J. Buckhout, Chief, Procedures Section
FAA Flight Inspection Field Office
Battle Creek, Michigan

★ We, and the author, stand corrected. It's always good to hear from our readers, even when you catch us in a mistake. C.R.'s got the word, thereby hopefully covering his *gluteus maximus.* Thanks.

C.R. Terror Invited

While rummaging through the musty and dirty, yet humble, historical files of the 53d Weather Reconnaissance Squadron, better known as the brave and courageous Hurricane Hunters, I stumbled across a copy of the October 1955 issue of the ancient and honorable MATS FLYER.

Thinking that I had found some sort of illegal contraband that would soon be confiscated by one of the many sneaky arch villains of magazine collectors' agents in the squadron, I hastily skimmed through the yellowing and decaying pages of the mag. Lo and behold, there he was . . . C.R. Terror!

Reading through the article, with an extra sharp eye on the locked office door, not knowing who would sneak in and swipe this antique jewel of a magazine, I discovered that the Mighty Major had found another of his many girl friends. Somebody named "Flora" kept popping up in the almost totally faded print. With continuing interest I read on. Surprise of surprises! The Hurricane Hunters managed to show the Naive Nobleman how the real flyers tamed the unknown. Excellent!

The Hurricane Hunters still fly into storms much like they did in the article, only now the 53 WRS flies the devout and faithful Herc instead of the Superfort. No longer stationed in a tropical paradise, the Hurricane Hunters now reside in the beachfront lot of Keesler AFB, Mississippi.

Many of the brave souls of the squadron, as well as the weather observers of Det 5, HQ AWS, who fly with them, idolize and respect the Idyllic Idler with such overwhelming vigor that they

The editors welcome letters from all readers, both military and civilian. Letters should be addressed to:

MAC/IGFE
Editor, THE MAC FLYER
Scott AFB IL 62225

Letters should be signed. At the author's request, names will be withheld. Letters may be controversial in nature but should be written in good taste and address specific issues rather than personalities. The editors reserve the right to print each letter in whole or in part.

pressed me to ask him to fly with us again! At least he might be able to come to Keesler and give us one of his Renowned Resolutions of good flying.

Could you, Sir Editor, being such close friends with our Happy Hero, persuade him to visit us again . . . soon? Especially since we have modernized our squadron?

Capt L. Scott Cox
53 WRS
Keesler AFB, Mississippi

★ The article you found was written by Bill Anderson who, incidentally, conceived and birthed the Master Manipulator. Now a professional (and successful) writer, Bill was once a Hurricane Hunter himself. Obviously, he was in a very good position to set C.R. up with "Flora."

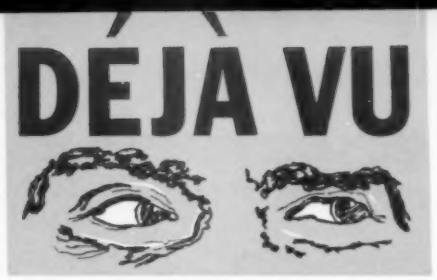
Major Terror does show up around THE MAC FLYER office once each month—some visits last longer than others, and he is not always in top form. In anticipation of his visit, the editor in charge of escorting him for the month may be seen frowning over his typewriter, mumbling to himself, and even kicking his own desk. Once the Impetuous Pilot has come and gone, there is generally a great deal of relaxation in the office—until time for his next visit.

Actually, we're not sure just where the old boy hangs out, but you just might be able to locate him in your own squadron. He usually buddies around his own kind—be they helicopter pilots, T-39 jocks, C-141 types, or what not. As you know, he's about as unproficient in one type of aircraft as another.

We agree that it's time for a weather recon story, and you folks have the expertise in that field. And so, Captain Cox, my suggestion to you is that members of your squadron seek ol' C.R. out, monitor his actions, and record same. Polish it a little and then send it on to us. We can't guarantee its printing but, if there is a redeeming safety message in the saga, C.R.'s weather reconnaissance misadventures may well be exposed in a future issue of the magazine.

Looking forward to hearing from you concerning the old boy.

The SAGE BRUSH
SH
3357 TFMW
U.S. AIR FORCE
"BRUCE II" RED FLAG SPECIAL
HS
"BLUE TWO, THIS IS BLUE ONE, CHECK SIX FOR AN AGGRESSOR C-5...
A C-5! I LOVE IT BLUE TWO... BLUE TWO? SPEAK TO ME BLUE TWO..."
THE TRICK IS TO GET BEHIND 'EM, THEN...
ici



Sondrestrom
Greenland

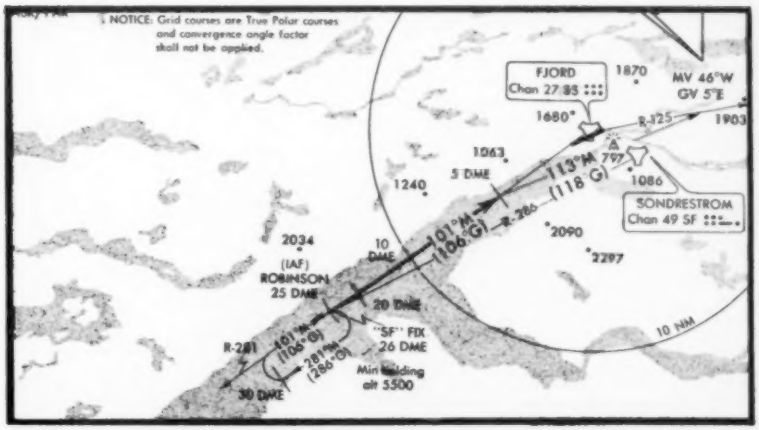
Lonely and desolate, Sondrestrom Air Base perches just ten miles from the southwestern edge of the Greenland ice cap, at the end of a 100-mile-long fjord. Approaches to the single runway (11/29) are aligned with the fjord; terrain averaging 2,000 feet elevation rises along both sides of the final approach course. Airfield elevation is 165 feet MSL.

Due to terrain, all instrument approaches are conducted to runway 11; visual or circling approaches are available to runway 29. A PAR approach to runway 11 requires weather of 800-2; ASR, NDB and tacan approaches require up to four miles visibility. A go-around from an approach to runway 11 calls for extreme caution, again due to high terrain on three sides of the field.

The Tacan-3 Rwy 11 approach contains a trap for the unwary. There are two tacans: Fjord (channel 27) and Sondrestrom (channel 49). Final approach guidance for the Tacan-3 approach comes from the Fjord tacan; the mistake of selecting Sondrestrom will lead an aircraft directly into a 2,090-foot hill south of the field.

Another hazard associated with Sondrestrom is runway illusion. The first 3,500 feet of runway 11, which is 9,200 feet long, has a 1.5 percent upslope; at touchdown, a pilot might get the impression that the crest of the runway is actually the end, instead of another mile down the centerline.

—Adapted from ISD-Q6-377



Selection of the wrong tacan on this approach could be disastrous.

Approaches to runway 11 are aligned with the fjord.

Runway 29 is available for visual or circling approaches only.

"Gee, Boss," Sam comforted, "it won't be bad. Those 30 days will be over before you know it and you'll be back flying the Starlifter again."

"Sammy, that's not the point," C.R. said disgustedly. "The old man just doesn't have any sense of humor!" The Rotund One studied a set of orders he held in his pudgy paw. "Why, back in the old days I used to let my navigator make a landing every now and then." He waved the orders at Sam. "And now this. Just because he *heard* I let a sweet young nurse sit in the right seat while the world's finest demonstrated his adroit aviator's skill on landing. What ever happened to fun flying?"

"But, Boss, he could've grounded you—"

"Tut! Tut! Sammy, my boy," C.R. broke in impatiently. "He had no proof. You don't think that I, the Master Manipulator of Wires and Tires would allow myself to—oops, here he comes! Sam, let me hide behind you."

"Good morning, Sir," Sam said, sidestepping to conceal his Bulgy Boss as the colonel passed.

"It's okay now. He's gone."

"Well, anyhow. If you ask me, Sam, I think making me SOF at Rhein Stein is cruel and unusual punishment. Tassels is perturbed—oh, and by the way, I told her it was a male flight nurse, so don't let it slip."

"You don't have to worry, Boss," Sam smiled.

"Like I say, Tassels is a bit unhappy," the Fearless Leader went on. "And she seems to be taking a shine to that klutz, Ham Hand. Though I can't imagine why. Anyhow, you keep an eye on that fuzzy-faced fledgling."

"Yessir. Here, let me help you," Sam said, reaching for his Boss's hand-tooled baby blue leather B-4 bag. "I think that's your transportation," he added, nodding in the direction of the squadron entrance. "Are you going to base ops?"

"Hrumph! You kidding?" the Bold One scolded. "I'm being treated like a lowly passenger. I couldn't even get ACM. MRS, yuk! Thousands of hours on the flight deck and now I'm rele-

C.R.'s affinity for a Big MAC gets his buns in trouble.

gated to riding in the hold. They're just wasting my valuable talents, Sam. Wasting!"

"Uh, right, Boss. Here, let me get the door for you."

"To the passenger terminal," C.R. whispered to the driver. "Sam, see you in a month."

"Roger that, Sir." Sam saluted. "Happy landings!"

Somewhat bedraggled, the Aviator with Avoirdupois climbed the crew entrance ladder with the queue of passengers. He'd argued with the pax service specialist about the weight of his luggage and yelled at the baggage handler for dropping his Portable Potable Kit, and now the blazing sun was giving the Pompous Pilot a perspiration problem.

Hot and sweaty, he glanced through the open door onto the flight deck and noticed a very youthful-looking gent settling into the left seat.

"Good grief! That copilot shouldn't be making the takeoff," C.R. said to the only green-bag around.

"No, Sir," the loadmaster replied. "That's the aircraft commander, Lieutenant Fairhair."

"Hmmm. Maybe I should sit on the flight deck," the Bibulous Buffoon blustered. "The kid might need help."

"I'm sorry, Sir," the sergeant interrupted, "that's not authorized. Please take a seat in the back."

"A passenger pilot!" the Magnificent Mentor murmured. "Just not like the good ol' days." But his eyes brightened as he noticed an empty seat next to a striking young lady officer.

"Excuse, mum." C.R. glistened a smile that would have made Farrah Fawcett envious. "Per chance, are you saving this seat for the Pillar of Pilotdom? If so, wait no longer. C.R. Terror, Master of the Air and Associated Machinery, has arrived."

"Why, yes, suh, Major," the blue-eyed, blond lieutenant said coyly. "Ah just *love* pilots." Her beguiling eyes and southern accent literally melted the Lothario of Airlift into the empty seat beside her.

"My name is Cindy," she said, "Cindy Glosslips. Was it 'Majah Terrah,' Sir?"

"Call me C.R.," the Able Aeronaut regained some composure. "And what is taking a sweet young thing such as yourself to Rhein Stein?"

"Oh, Ah'm on leave," she smiled. "Travelin' space 'A, I think you call it. Goin' to see my boyfriend. He's flyin' F-fowa's out of Rhein Stein."

"Quaff! Quaff!" C.R. choked. "An egocentric fighter jock? Young lady, you could do much better! Take me, for instance, heh, heh." His eyes twinkled.

"Ah'll just bet," she winked. "And what takes you to Rhein Stein, suh?"

"Well, er, ah'm, I mean, I'm going to serve a short tour as SOF."

"A soff? What's that?" she shouted over the Pratt and Whitneys' roar as they TRT'ed down the runway.

"Supervisor of Flying, m'dear." The Chauvinistic Skipper's chest swelled. "As the term implies, I'll be in charge of *all* flying. Your boyfriend's included."

"It sounds so important," she drawled.

" 'Tis, young lady, 'tis!" And the Stoic Storyteller began, "But let me tell you about my tour as pilot aboard Air Force One . . . "

And so for the next seven hours, the young lieutenant listened, wide-eyed, to the Legend of the World's Greatest Aviator according to C.R. Terror.

As the Starlifter touched down at Rhein Stein, the Master Manipulator's voice was somewhat scratchy but his spirits soared.

"Listen, child," he said, smiling and patting her hand, "I must report to the chief of the command post, but I'll meet you at the watering hole and introduce you to a Terrorific 'Tini."

"That'd be lovely, suh," Cindy said. "I'll check into the BOQ and meet you later."

As the Rotund One deplaned, he spotted the SOF vehicle and headed for it.

C.R. straightened his cap. "Evening, Captain. I'm Major Terror, TDY from McNorton Air Base to teach you folks a little about the SOF business. Can you deliver me to the command post so I may announce my presence?"

"Yes, Sir. I'm Eric Coop," the captain introduced himself. "Colonel Backbight is waiting to see you."

Backbight! C.R. thought. Not old Black Bart Backbight. Once

the terror of MAC standardization; the one who sat on C.R.'s second (or was it the third?) FEB.

His suspicions were confirmed as he entered the colonel's office.

"Yes, Sir!" C.R. stood at rigid attention and popped a salute. "Major Terror, reporting as directed. Only too happy to help you out here. But I'm sure that you have the usual three days off planned for me before I begin my duties."

"Terror, hmmmm." The colonel stared the Ambient Aeronaut squarely in the eyes. "We've met, haven't we? Didn't you crump a 130 at CCK? Five, maybe six years ago?"

"Oh, no, Sir," C.R. lied. "Never been in Little MAC. I fly the heavies—141's out of McNorton. There are a lot of impersonators, though." C.R. smiled weakly.

"Well, never mind." Backbight leaned back and crossed his arms. "I hope you were joking about 'Little MAC.' We all work together here. We're in the same air force—and the same command. As SOF, you'll be required to provide service to all MAC aircraft, without discrimination."

"Yessir," C.R. apologized, "just a figure of speech. I really meant—"

"Never mind, Major," the colonel interrupted. "As for any time off, I'm sorry. We're shorthanded and, as I understand it, this is not a pleasure cruise for you. You'll pick up the duty at 2230—tonight."

"But, Sir, I'll hardly have time to, er, check in and clean up." The Round One looked at his Seiko Navigator, added five, and made it 2115.

"Not to worry, Major," Backbight soothed. "The weather's deteriorating and there are no aircraft due in until early morning. Just call your BOQ room number in to the command post and remain near the phone. Captain Coop will deliver the keys to the SOF vehicle to you at the end of his duty."

"Yessir," C.R. saluted, stumbled through an about-face, and departed.

At rampside, he flagged down the SOF vehicle.

"Hey, Eric, how about taking me down to the pax terminal for my bags and dropping me off at the BOQ?"

"Sure thing, Sir. Hop in."

"And listen—can you bring me the keys to the vehicle at the O Club?" the Devious Driver coaxed. "I, er, haven't had dinner yet and . . . "

"Yeah, I guess so," the captain agreed. "But, you know, you're supposed to stand by in the Q, just in case."

"I understand, m'boy. I understand."

As the Portly Pilot approached the bar, he found it relatively empty—except for a gathering at one end. A group of laughing, scratching, egotistical fighter jocks, he thought.

Then he heard it: "Ah just *love* pilots—" He broke into a smile and into the middle of the group.

"Cindy, m'pigeon," the Foxy Flier cooed. "Are these Mach-two Macho's bothering you?"

"Oh, no, suh, Majah Terrah," Cindy grinned. "These are friends of my boyfriend, Jink. He's TDY in Spain and these fellas are keeping me company."

"Ahem," C.R. raised his eyebrows and whispered in her ear, "I think you can find better company than this. Come along; I'll treat you to a special vino, Italian onion soup, and garlic

bread."

The Legendary Lecher and the lovely lieutenant were being seated by the maitre d' as Captain Coop approached the table.

"Here you are, Sir, the keys and your brick," Eric said. "The weather's really getting nasty. It looks like an easy night for you."

"Thank you, my good man," C.R. said matter-of-factly. "Captain Coop, meet Lieutenant Glosslips, a, er, traveling companion."

Smiles, handshakes, words; the captain departed.

Nearly three hours passed; the Rotund One was working on his fifth Terrorific 'Tini and reflying the Berlin Airlift for Cindy. She was still nursing her first drink.

"Now, the C-74—Globemaster I—was an amazing beast—"

"Sir, are you Major Terror?" a wingless captain interrupted.

"That's right," C.R. gurgled. "Want my autograph?"

"Ah, no, Sir, I'm the O.D. The command post has been trying to contact you for some time. Your brick must be malfunctioning."

"Ahh, right you are, Sonny," C.R. noticed that he had never turned it on. "I'll call them immediately." He headed straightway for the phone.

". . . been trying to get hold of you. A CYA mission just landed and you should be out there baby-sitting."

C.R. scribbled a few notes, returned to the bar to say his goodbyes, and departed into the steamy early morning fog.

He had wandered around the flight line for over 30 minutes before a ghostly image appeared in his windshield. The Rhein Stein Cowboy slammed on the brakes, skidding to a stop a full two feet from the parked and darkened Brown and Green.

"Damn invisible airplanes," he muttered. "Oughta paint 'em phosphorescent," Then he noticed the tail number. "Huh? *That's* my CYA mission? I don't believe it! A *C-130* took me away from the fun and frolic!"

He waddled up the Hercules' ladder and peered into the darkness of the flight deck. "Anybody home?" he challenged. "You guys want a ride, or are you gonna make like typical TAC weenies and sleep on the airplane?"

"You're damn right we want a ride," growled a voice from the left seat. "We've been sitting here in the dark for 45 minutes—no crew bus, no power cart, and the GTC's inop. What kind of service do you call this, anyway?"

C.R. climbed onto the flight deck and puffed, "Okay, take it easy. You guys in Little MAC sure are sensitive."

A rheostat was turned and the cabin began to light up very slowly. C.R. blinked at the gleam of stars from the shoulders of the pilot. Good grief! he thought, trying to swallow a sudden lump in his throat. It's General Rattler, the 23 AF commander!

"What was *that*, Major?" The general slid his seat back and in a matter of microseconds was staring down into C.R.'s near-tearful eyes.

"Ah, yes, Sir, I, ah, said a little MAC sensitivity goes a long way, heh, heh."

"Never mind," the general sniffed. "You've been drinking!"

"Ah, yes, Sir, I did have a glass of wine with dinner . . . "

"Hey, Boss," Sammy shouted. "It's good to have you back. I told you you'd be flying again in no time."

"Well, not quite," the Dejected Driver replied.

"What do you mean, Sir?"

"Well, first I have to go to drug and alcohol abuse class. Then a special course on sensitivity in human relations. And to top it off, General Rattler has ordered me to write a story for THE MAC FLYER, pointing out the importance of *all* the MAC units." C.R. shook his head. "I'm afraid it'll be a long time before I see the flight deck again."

"Gee, I'm sorry to hear that, Boss." Sam patted his Bulgy Boss on the shoulder. "I'll tell you what—let me buy you lunch. We'll run down to the Golden Arches and get a Big Mac."

A perplexed look captured Sammy's countenance as the Terror of the Airways' cheeks puffed, a pudgy paw covered his mouth, and his rubbery legs began to move his unwilling body in the general direction of the men's room.

Tethered Huey

Two Army pilots, waiting for their OV-1 to be refueled, were watching a pair of helicopters preparing for departure. As the first Huey lifted into a hover, one of the Mohawk drivers noticed a red flag dangling under the aircraft; a closer look revealed that the chopper was still attached to its grounding wire.

The fixed-wingers got the helicopter pilot's attention, signaled him to land immediately, and removed the wire. It had orginally been attached to the left skid, but ended up wrapped around the right skid and connected to a grounding pin under the tail rotor.

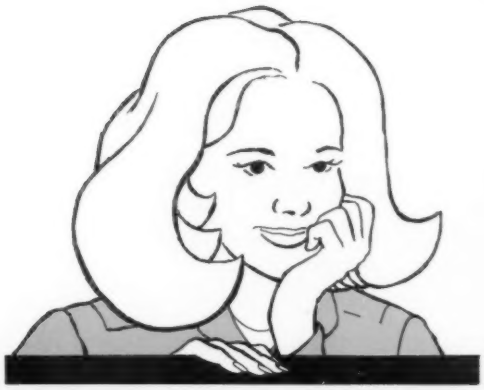
Having some alert observers around is nice, but a careful preflight is better.

—USAAAVS *Flight Fax*

Hot Seat!

The Herky had a history of odors from the air conditioning ducts, and history seemed to be repeating itself as the crew flew the first leg of an airland/airdrop mission. The smell wasn't too bad at first, so the crew pressed on. But the nasal assault grew worse during the 40-minute engines-running ground time and, after takeoff for the low-level sortie, it became intolerable. Turning off the air conditioning didn't help, so the crew went on oxygen and began looking for the source of the odor. The loadmaster, scanning the cargo compartment, noticed smoke and scorched insulation near the ceiling; the crew shut off bleed air and nonessential electrical equipment, declared an emergency, and landed.

The source of the fumes turned out to be a pair of foam seat cushions stored next to a hot bleed air duct. New cushions had been installed, and the old ones stored as spares; continuous contact with the hot air duct set them smoldering.



Cessna Fuel Hazard

If you ever have occasion to fly a Cessna 310, you'll be interested in some information turned up by the National Transportation Safety Board during an investigation of a 310 accident.

The mishap was apparently caused by fuel starvation, even though the aircraft had plenty of fuel on board. The gremlin in this case turned out to be a misunderstanding of the endurance available from the auxiliary fuel tanks, which hold 30 gallons of usable fuel. At normal cruise, a pilot could reasonably expect to fly for about an hour on this amount of fuel—but the fuel injection system bypasses about half the fuel delivered by the engine-driven pump, and in the 300 and 400 series airplanes, this fuel is returned only to the main tank. Thus, the endurance on aux tanks could be as little as 30 minutes.

Cessna test pilots and marketing personnel consider the auxiliary tanks suitable for only 30 minutes of operation. However, the NTSB holds that the owner's manuals for the 310 series do not contain enough specific information for the pilot to determine the actual endurance.

Quick Stoppers

Albert Loves Alice—Alice Is Breaking Up

Most of us are aware of the damage that can be inflicted by the jet blast of the C-5's General Electrics. Trucks, windshields, windows, roofing, and other aircraft have fallen prey to the turbo-typhoon in an angry Albert's six o'clock. The latest to feel the sting of Al's bitter kiss is Alice Springs, Australia, to the tune of 329 square meters of asphalt and 17 runway lights.

C-5's have operated in and out of Alice Springs before without inflicting damage. But this was no normal mission. The aircraft had arrived with both X- and K-band radars inop and the weather forecast for the return-to-Guam leg called for isolated thunderstorms. The AC, after coordinating with 22AF, decided in favor of a daylight flight to Guam (that would allow visual circumnavigation of the CB's) but he'd load on enough fuel for diversion to Darwin—just in case.

The extra 65,000 pounds of fuel necessitated a TRT, standing takeoff which the crew adroitly accomplished. But once the Galaxy was airborne, tower advised the airmen of the damage done to the field. Asphalt chunks one-third the size of a desk top had been blown away.

The total tab for the Galaxy's power demonstration was placed at $11,116.47—that's Aussie dollars. We'll let you figure the cost in "green." Just use $1.1033 U.S. to one Australian.

The Old Rope Trick

The crew of a four-engine transport were homeward bound at the end of the three-week TDY when they discovered that the nose gear strut was leaking and had a regrettable tendency to bottom out on landing. Possibly under the influence of get-home-itis, they elected not to have the strut properly repaired and serviced. Instead, they used an old (and nonstandard) maintenance shortcut that had been applied to other types of aircraft in the past: wrapping the leaky strut with rope.

All went well until after takeoff, when the crew discovered that the nose gear would not remain in the "up" position. They dumped fuel and made a precautionary landing; the "shortcut" had resulted in a long delay. One more case where the time to do it right would have been time well spent.

—U.S. Navy *Weekly Summary*

Qs

Hovering Cub

Anyone who's had the pleasure of flying a Piper J-3 Cub knows that it's capable of some pretty impressive short-field takeoffs. But would you believe a *vertical* takeoff?

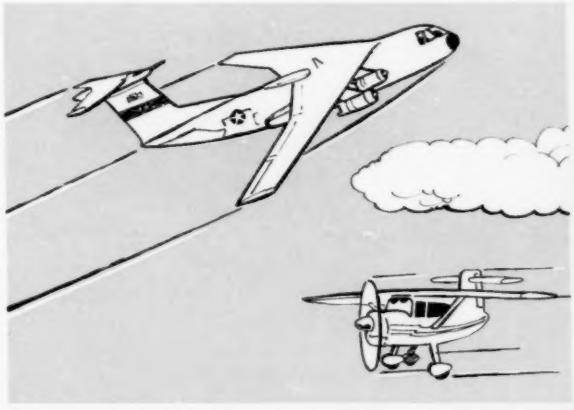
The J-3, one of a flight of four light aircraft, had just arrived at an Air Force base for an Armed Forces Day fly-in. On contacting ground control, the flight was cleared across the approach end of the parallel runway, where a four-engine jet was waiting for departure. The light aircraft, concerned about jet blast, at first elected to hold short of the runway; but on being assured by the ground controller that the jet was awaiting IFR release and would be remaining at idle, the flight began taxiing.

Unfortunately, the ground controller hadn't coordinated with the tower controller. As the four lightplanes began to cross the runway, tower cleared the many-motor for takeoff. One of the little ones escaped damage; two others were tossed about, with resulting dings of the wingtips; and the J-3 became airborne, climbing to about five feet. The alert Cub pilot jammed in the power and, after one bounce, managed to remain in the air. He stayed on ground frequency for an uneventful approach and landing.

Close Call on Short Final

Outside vigilance is pretty easy to maintain on those beautiful VFR weekends when you're sure the air is full of bug smashers. But when you're IFR, the visibility is somewhere around two miles in fog and haze, and you're three miles from touchdown on a PAR-monitored ILS, it takes discipline to keep looking outside.

That kind of discipline paid off for the crew of a MAC multijet recently. The right-seater, who was maintaining his outside scan through the murk, spotted the light aircraft approaching from the right front quarter on a collision course. He took control and avoided a midair by 300 feet; the other aircraft was then tracked by radar and subsequently identified by a Marine helicopter. Apparently the pilot of the light aircraft had violated the TCA. FAA is investigating.



Notable Quote

"The *responsibility* for safety . . . rests with all of us but most particularly with the senior supervisors (squadron commanders and above) . . . (They) best know . . . that good judgment and the desire to get the job done may result in *conflicting philosophies* when faced with machines or people not in the best condition, or . . . (an) operating environment . . . beyond the ability of the machines or people involved . . . ."

RADM Thomas J. Hughes, Jr.
U.S. Naval Safety Center *Weekly Summary*

(The italics are ours—Ed.)

after deadline . . . .

TEHRAN TAXIWAYS are sometimes runways and vice versa. Not long ago a MAC giant was cleared to runway 29 left at Mehrabad International Airport for a night departure. The C-5 was to taxi down runway 29 right, so the AC crossed a blue lighted taxiway and made a left turn onto the runway outlined in white lights. A few seconds later, tower announced the Albert was on the active. Couldn't be, the crew said. But, before their very own eyes, the white lighted runway became a blue lighted taxiway as tower changed active runways. Tehran at night? Beware!

A SHARP MAC CREW caught 'em again and avoided embarrassment and possibly a premature scraping of the ground. The HC-130 was inbound to Mildenhall when the crew received a suspect altimeter setting--fully an inch off. The crew refused to accept the bad numbers and entered holding until the discrepancy was resolved. After a short delay, the correction came through. You're right, MAC; it should've been 29.31 vice 30.31.

"MODERATE OR GREATER" is a term used by the National Weather Service to describe anything greater than moderate turbulence; it appears that words like "severe" and "extreme" are not in the NWS vocabulary. So look out when you hear the above term; you could be in for a very rough ride.

NEXT MONTH--

The Flying Circus is back in town. Don't miss "The $3 Million Home Movie" and "The Gate Escape."

Birdstrikes galore in "Raven 114" and "Mishap with a Moral" highlight our fine-feathered-enemy issue.

Deja Vu takes us to the South Atlantic for an aerial view of the island of Ascension and its unique runway.

*U.S. GOVERNMENT PRINTING OFFICE: 1977—765-011/5

Touch 'n Go

"Hey, co, you wanna check that altimeter setting one more time?"